

REMARKS / ARGUMENTS

Information Disclosure Statement

The Office Action states that the Information Disclosure Statement ("IDS") and associated papers filed on November 6, 2000 failed to comply with 37 CFR 1.98(a)(2) because they failed to include the cited publications. Applicants respectfully submit that, at the time of mailing, the cited publications were supplied to the U.S. Patent and Trademark Office along with the IDS. This is shown by the enclosed copy of the date-stamped postcard acknowledging filing of copies of cited references CA-CJ with the U.S. Patent and Trademark Office, on November 6, 2000. However, in the interest of an efficient examination of this application, Applicants have resubmitted the originally-cited references CA-CJ with this Amendment and Response. Because the original IDS submission was filed prior to the mailing of the first Office Action, Applicants respectfully submit that neither a fee nor a statement are due with the resubmitted documents.

Drawings

The Specification has been amended to include mention of reference character 4, i.e., one of a plurality of other nodes, that appears in Figures 2, 4, 8, and 9. As a result, changes to the Figures are not required.

Specification

The Specification has been amended to eliminate the informalities identified by the Examiner, e.g., a minor typographical error, and Abstract length greater than 150 words. Additionally, the Specification has been amended to include mention of reference character 4. Applicants submit that no new matter has been added as a result of this

change because, as indicated in the Office Action, the amendment incorporates a reference character that appeared in the originally-filed Figures.

Claims Status

Claims 1-27 were originally filed in this application. In the Office Action, claims 1-27 were rejected. Claims 25 and 27 were objected to for informalities. In this Amendment and Response, claims 1, 14, 15, 25, and 27 are amended, and claims 4 and 18 are cancelled, without prejudice. Applicants reserve the right to pursue these claims in a continuation application. Upon entry of this Amendment and Response, claims 1-3, 5-17, and 19-27 will be pending. Applicants respectfully request reconsideration of the objections and rejections in light of the amendments and comments in this Amendment and Response.

Claim Objections

Claims 25 and 27 were objected to for informalities. Applicants submit that the amendments made should resolve the objections.

Claim Rejections under § 112

Claims 10 and 24 were rejected under 35 U.S.C. § 112 as indefinite. Applicants respectfully submit that the term “a small number” is not indefinite, and that one skilled in the art would be able to distinguish a small number from a number that is not small in this context. Applicants note that the portion of the Flammer reference referred to by the Examiner describes “a small group of nodes.” Col. 1, line 36.

Claim Rejections under § 102 and § 103

Claims 1, 4-11, 14, 15, and 18-27 were rejected under 35 U.S.C. § 102 as unpatentable over U.S. Patent No. 6,041,049 to Brady ("Brady"). Claims 2, 3, 16, and 17 were rejected under 35 U.S.C. § 103 as unpatentable over Brady in view of U.S. Patent No. 5,007,052 to Flammer ("Flammer"). Claims 12 and 13 were rejected under 35 U.S.C. § 103 as unpatentable over Brady.

Brady

Brady "enables each node in a multi-nodal network to construct a routing table to all other nodes in the network." Col. 2, lines 48-49. In Brady, "[e]ach 'home' or originating node performs a method which includes the steps of: transmitting a query to all immediate neighbor nodes." Col. 2, lines 50-52 (underlining added). The originating node then exchanges routing table entries with all of the other nodes, by "transferring to each neighbor node, home node routing table entries and receiving routing table entries from each neighbor node." Col. 2, lines 54-56.

Flammer

Flammer is directed to a method for communicating broadcast packets to all nodes in a network, in a manner that provides for "timely arrival of all packets of a message and which does not cause a fission of management problems." Col. 2, lines 5-9. In Flammer, "broadcast or flooding packets received at a node are only rebroadcast if specific criteria are met." Col. 2, lines 11-14. Each Flammer node "has sufficient intelligence to maintain information on each other node within communication range." Col. 2, lines 20-22. "In a packet flooding situation, a node rebroadcasts a flooding packet only to those other nodes which have low sequence numbers or which the rebroadcasting node is related by a low sequence number of the other node." Col. 2, lines 27-32.

Although Flammer mentions in its Background of the Invention section that it would be possible “to selectively but randomly address a small group of nodes in a reception region” (col. 1, lines 55-57), Flammer indicates that this solution “runs counter to the intention to broadcast a packet throughout a network.” Col. 1, lines 58-60.

Applicants’ Claims

Applicants’ amended independent claim 1 recites, in part, “randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, a second node.” Claim 1 also recites, in part, “transmitting from the first node to the second node at least a portion of the cooperating node information available to the first node.” Claim 1 also recites, in part, “periodically repeating steps (a) and (b).”

Applicants’ amended independent claim 14 recites, in part, “a selector for randomly or pseudorandomly selecting, from cooperating node information available to the node, a second node.” Claim 14 also recites, in part, “a transmitter for transmitting from the first node to the second node at least a portion of the cooperating node information available to the first node.” Claim 14 also recites, in part, “a timer control for periodically triggering the selector and the transmitter.”

Applicants’ amended independent claim 15 recites, in part, “randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, a second cooperating node.” Claim 15 also recites, in part, “requesting, by the first node, from the second node, at least a portion of the cooperating node information available to the second node.” Claim 15 also recites, in part, “receiving, by the first node, from the second node, at least a portion of the cooperating node information available to the second node.” Claim 15 also recites, in part, “periodically repeating steps (a), (b), and (c).”

As noted in the Office Action with reference to claims 2 and 3, Brady does not select nodes randomly or pseudorandomly. Rather, Brady transmits a query “to all immediate neighbor nodes.”

Flammer is directed to minimizing the effect of rebroadcasting of broadcast packets, and not to the discovery of cooperating nodes. It therefore would not have been obvious to combine Flammer with Brady to reach the claimed invention, because they are all directed to different problems.

In addition, because the problem that Flammer attempts to solve is different than that addressed by Applicants, Flammer describes “address[ing] a small group of nodes in a reception region.” Flammer mentions nodes in a “reception region,” rather than other cooperating nodes not in the reception region, because Flammer wants to limit rebroadcast of broadcast packets, rather than communicate cooperating node information in an efficient manner.

Flammer also teaches away from the use of “selectively but randomly address[ing] a small group of nodes in a reception region.” Col. 1, lines 55-57. Flammer states that such a solution “runs counter to the intention to broadcast a packet throughout a network.” Col. 1, lines 58-60. It therefore would not have been obvious from Flammer that “selectively but randomly address[ing] a small group of nodes in a reception region” would have been useful in any context.

Applicants specification describes the utility of random or pseudorandom selection, as in the embodiment of FIG. 2:

It is provable that, for the embodiment of FIG. 2, if the selection process is random, and the node information is static, the number of rounds required until every node has information about every other node is $O(\log^2 n)$ rounds, where (n) is the number of cooperative nodes, and O is a constant. Even if the choices are not strictly random (that is, they are pseudorandom, etc.), the system and method is useful, but the time until completion, which is when all of the nodes know about each other, is presently not provable.

Pages 8-9. Neither Flammer nor Brady teach or suggest any benefits of random or pseudorandom node selection. Neither do they teach or suggest any benefits of periodic repeating of such random or pseudorandom selection. Rather, Flammer and Brady both teach away from such random or pseudorandom selection. It therefore would not have been obvious to combine Brady with Flammer in an attempt to reach the claimed invention.

Applicants respectfully submit that all of the dependent claims are patentable because they depend, directly or indirectly, on a patentable base claim. These claims may also have other features not taught or suggested by the cited references.

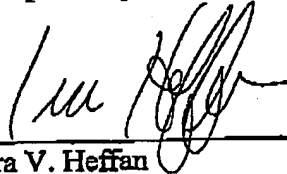
CONCLUSION

In view of the foregoing, Applicants respectfully request reconsideration, withdrawal of all grounds of rejection, and allowance of claims 1-3, 5-17, and 19-27 in due course. The Examiner is invited to contact Applicants' undersigned representative by telephone at the number listed below to discuss any outstanding issues.

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Respectfully submitted,



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